

(2) INFORMATION FOR SEQ ID NO:1:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1818 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

ATGATGAGAG CACGGTCCCC ATTACTGTTG CTGGGACTTG TTTTCCTGGC TTCAGTTTCT	60
GTCTCATTTG GCATTGCTTA CTGGGAAAAA GAGAACCCCA AACACAACAA GTGTCTCCAG	120
AGTTGCAATA GCGAGAGAGA CTCGTACAGG AACCAAGCAT GCCACGCTCG TTGCAACCTC	180
CTTAAGGTGG AGAAAGAAGA ATGTGAAGAA GGTGAAATTC CACGACCACG ACCACGACCA	240
CAACACCCCGG AGAGGGAACC TCAGCAACCC GGTGAGAAGG AGGAAGACGA AGATGAGCAA	300
CCACGTCCAA TCCCATTCCC ACGCCCACAA CCTCGTCAAG AAGAAGAGCA CGAGCAGAGA	360
GAGGAACAGG AATGGCCTCG CAAGGAGGAA AAACGCGGAG AAAAGGGAAG TGAAGAGGAA	420
GATGAGGATG AGGATGAGGA ACAAGATGAA CGTCAATTCC CATTCCCACG CCCACCTCAT	480
CAGAAGGAAG AGCGAAACGA AGAGGAAGAT GAGGATGAGG AGCAGCAGCG AGAGAGCGAA	540
GAAAGTGAAG ATTCTGAGTT ACGAAGACAT AAGAATAAGA ACCCTTTTCT CTTCGGCTCT	600
AACAGGTTCG AAACCTCTCTT CAAAAACCAA TATGGTCGCA TTCGCGTCCT CCAGAGGTTC	660
AACCAACGCT CCCCACAAC T CAGAATCTC CGAGACTACC GCATTTTGGA GTTCAACTCC	720
AAACCCAACA CCCTCCTTCT CCCCAACCAT GCTGACGCTG ATTACCTCAT CGTTATCCTT	780
AACGGGACTG CCATTCTTTC CTGGGTGAAC AACGACGACA GAGACTCCTA CAGACTTCAA	840
TCTGGTGATG CCCTGAGAGT CCCCTCAGGA ACCACATACT ATGTGGTCAA CCCTGACAAC	900
AACGAAAATC TCAGATTAAT AACACTCGCC ATACCCGTTA ACAAGCCTGG TAGATTTGAG	960
AGTTTCTTCC TATCTAGCAC TGAAGCTCAA CAATCCTACT TGCAAGGATT CAGCAGGAAC	1020
ATTTTAGAGG CCTCCTACGA TACCAAATTC GAGGAGATAA ACAAGGTTCT GTTTAGTAGA	1080
GAGGAAGGGC AGCAGCAAGG GGAGCAGAGG CTGCAAGAGA GCGTGATTGT GGAAATCTCG	1140
AAGGAACAGA TTCGGGCACT GAGCAAACGT GCCAAATCTA GTTCAAGGAA AACCATTCTT	1200
TCTGAAGATA AACCTTTTAA CTTGAGAAGC CGCGACCCCA TCTACTCCAA CAAGCTTGGC	1260
AAGTTCTTTG AGATCACCCC AGAGAAAAAC CCCAGCTTC GGGACTTGGA TATCTTCCTC	1320
AGTATTGTGG ATATGAACGA GGGAGCTCTT CTTCTACCAC ACTTCAATTC AAAGGCGATA	1380

GTGATACTGG	TAATTAATGA	AGGAGATGCA	AACATTGAAC	TTGTTGGCCT	AAAAGAACAA	1440
CAACAGGAGC	AGCAACAGGA	AGAGCAACCT	TTGGAAGTGC	GGAAATATAG	AGCCGAATTG	1500
TCTGAACAAG	ATATATTTGT	AATCCCAGCA	GGTTATCCAG	TTGTGGTCAA	CGCTACCTCA	1560
AATCTGAATT	TCTTTGCTAT	TGGTATTAAT	GCCGAGAACA	ACCAGAGGAA	CTTCCTCGCA	1620
GGTTCGCAAG	ACAATGTGAT	AAGCCAGATA	CCTAGTCAAG	TGCAGGAGCT	TGCATTCCCT	1680
GGGTCTGCAC	AAGCTGTTGA	GAAGCTATTA	AAGAACCAAA	GAGAATCCTA	CTTTGTGGAT	1740
GCTCAGCCTA	AGAAGAAAGA	GGAGGGGAAT	AAGGGAAGAA	AGGGTCCTTT	GTCTTCAATT	1800
TTGAGGGCTT	TTTACTGA					1818

(2) INFORMATION FOR SEQ ID NO:2:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 1920 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

ATGATGAGAG	CGCGGTTCCC	ATTACTGTTG	CTGGGAGTTG	TTTTCCTAGC	ATCAGTTTCT	60
GTCTCATTTG	GCATTGCGTA	TTGGGAAAAG	CAGAACCCCA	GTCACAACAA	GTGCCTCCGA	120
AGTTGCAATA	GCGAGAAAGA	CTCCTACAGG	AACCAAGCAT	GCCACGCTCG	TTGCAACCTC	180
CTTAAGGTGG	AGGAAGAAGA	AGAATGCGAA	GAAGGTCAAA	TTCCACGACC	ACGACCACAA	240
CACCCGGAGA	GGGAACGTCA	GCAACACGGT	GAGAAGGAGG	AAGACGAAGG	TGAGCAGCCA	300
CGTCCATTCC	CATTCCCACG	CCCACGCCAA	CCTCATCAAG	AGGAAGAGCA	CGAGCAGAAG	360
GAGGAACACG	AATGGCATCG	CAAGGAGGAA	AAACACGGAG	GAAAGGGAAG	TGAAGAGGAA	420
CAAGATGAAC	GTGAACACCC	ACGCCCACAC	CAACCTCATC	AAAAGGAAGA	GGAAAAGCAC	480
GAATGGCAAC	ACAAGCAGGA	AAAGCACCAA	GGAAAGGAAA	GTGAAGAAGA	AGAAGAAGAC	540
CAAGACGAGG	ATGAGGAGCA	AGACAAAGAG	AGCCAAGAAA	GTGAAGGTTC	TGAGTCTCAA	600
AGAGAACCAC	GAAGACATAA	GAATAAGAAC	CCTTTTCACT	TCAACTCTAA	AAGGTTCCAA	660
ACTCTCTTCA	AAAACCAATA	TGGCCACGTT	CGCGTCCTCC	AGAGGTTCAA	CAAACGCTCC	720
CAACAGCTTC	AGAATCTCCG	AGACTACCGC	ATTTTGGAGT	TCAACTCCAA	ACCCAACACC	780
CTTCTTCTCC	CCCACCATGC	TGACGCTGAT	TACCTCATCG	TTATCCTTAA	CGGGACTGCC	840
ATTCTTACCT	TGGTGAACAA	CGACGACCGA	GACTCTTACA	ACCTTCAATC	TGGCGATGCC	900

CTAAGAGTCC	CTGCAGGAAC	CACATTCTAT	GTGGTTAACC	CTGACAACGA	CGAGAATCTC	960
AGAATGATAG	CAGGAACCAC	ATTCTATGTG	GTTAACCCTG	ACAACGACGA	GAATCTCAGA	1020
ATGATAACAC	TCGCCATACC	CGTTAACAAA	CCCGGTAGAT	TTGAGAGTTT	CTTCCTATCT	1080
AGCACTCAAG	CTCAACAGTC	CTACTTGCAA	GGGTCAGCA	AGAATATTCT	AGAGGCCTCA	1140
TACGACACCA	AATTCGAGGA	GATAACAAG	GTTCTGTTTG	GTAGAGAGGA	GGGGCAGCAA	1200
CAAGGGGAGG	AGAGGCTGCA	AGAGAGTGTG	ATTGTGGAAA	TCTCAAAGAA	ACAAATTCGG	1260
GAAGTGAAG	AACATGCCAA	ATCTAGTTCA	AGGAAAACCA	TTTCTTCTGA	AGATAAACCT	1320
TTCAACTTGG	GAAGCCGCGA	CCCCATCTAT	TCCAACAAGC	TTGGCAAGTT	GTTTGAGATT	1380
ACCCAGAGAA	ACCCTCAGCT	TCGGGACTTG	GATGTCTTCC	TCAGTGTTGT	GGATATGAAC	1440
GAGGGAGCTC	TTTTTCTACC	ACACTTCAAT	TCAAAGGCCA	TAGTGGTACT	AGTGATTAAT	1500
GAAGGAGAAG	CAAACATTGA	ACTTGTTGGC	ATTAAAGAAG	AACAACAGAG	GCAGCAACAG	1560
GAAGAGCAAC	CTTTGGAAGT	GCGGAAATAT	AGAGCTGAAT	TGTCTGAACA	AGATATATTT	1620
GTAATCCCAG	CAGGTTATCC	AGTTATGGTC	AACGCTACCT	CAGATCTGAA	TTTCTTTGCT	1680
TTTGGTATCA	ATGCCGAGAA	CAACCAGAGG	AACTTCCTTG	CAGGTTGAA	AGACAATGTG	1740
ATAAGCCAGA	TACCTAGTCA	AGTGCAGGAG	CTTGCGTTCC	CTAGGTCTGC	AAAAGATATT	1800
GAGAACCTAA	TAAAGAGCCA	AAGTGAGTCC	TACTTTGTGG	ATGCTCAGCC	TCAGCAGAAA	1860
GAGGAGGGGA	ACAAGGGAAG	AAAGGGTCCT	TTGTCTTCAA	TTTGAGGGC	TTTTTACTGA	1920

(2) INFORMATION FOR SEQ ID NO:3:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 1320 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

ATGATGAGAG	TGCGGTTTCC	TTTGTTGGTG	TTGCTGGGAA	CTGTTTTTCCT	GGCATCAGTT	60
TGTGTCTCAT	TAAAGGTGAG	AGAGGATGAG	AATAACCCTT	TCTACTTTAG	AAGCTCTAAC	120
AGCTTCCAAA	CTCTCTTTGA	GAACCAAAAC	GTTTCGCATTC	GTCTCCTCCA	GAGATTCAAC	180
AAACGCTCCC	CACAACCTGA	GAACCTTCGA	GACTACCGGA	TTGTCCAGTT	TCAGTCAAAA	240
CCCAACACAA	TCCTTCTCCC	CCACCATGCT	GACGCCGATT	TCCTCCTCTT	TGTCCTTAGC	300
GGGAGAGCCA	TACTTACCTT	GGTGAACAAC	GACGACAGAG	ACTCCTACAA	CCTTCACCCT	360

GGCGATGCCC	AGAGAATCCC	AGCTGGAACC	ACTTACTATT	TGGTTAACCC	TCACGACCAC	420
CAGAACTCTCA	AAATAATCAA	ACTTGCCATA	CCCGTCAACA	AACCTGGCAG	ATATGATGAT	480
TTCTTCTTAT	CTAGCACTCA	AGCCCAACAG	TCCTACTTGC	AAGGCTTCAG	CCATAATATT	540
CTAGAGACCT	CCTTCCATAG	CGAATTCGAG	GAGATAAACA	GGGTTTTGTT	TGGAGAGGAA	600
GAGGAGCAGA	GGCAGCAAGA	GGGAGTGATC	GTGGAACCTCT	CAAAGGAACA	AATTCGGCAA	660
CTGAGCAGAC	GTGCCAAATC	TAGTTCAAGG	AAAACCATT	CCTCCGAAGA	TGAACCATTC	720
AACTTGAGAA	GCCGCAACCC	CATCTATTCC	AACAACCTTG	GAAAGTTCTT	TGAGATCACC	780
CCTGAGAAAA	ACCCACAGCT	TCGGGACTTG	GATATCTTCC	TCAGTTCTGT	GGATATCAAC	840
GAAGGAGCTC	TTCTTCTACC	ACACTTCAAT	TCAAAGGCCA	TAGTGATACT	AGTGATTAAT	900
GAAGGAGATG	CAAACATTGA	ACTTGTTGGC	ATTAAAGAAC	AACAACAGAA	GCAGAAACAG	960
GAAGAGGAAC	CTTTGGAAGT	GCAAAGGTAC	AGAGCTGAAT	TGTCTGAAGA	CGATGTATTT	1020
GTAATTCCAG	CAGCTTATCC	ATTTGTCGTC	AACGCTACCT	CAAACCTCAA	TTTCCTTGCT	1080
TTTGGTATCA	ATGCTGAGAA	CAACCAGAGG	AACTTCCTTG	CAGGCGAGAA	AGACAATGTG	1140
GTAAGGCAGA	TAGAAAGACA	AGTGCAGGAG	CTTGCGTTCC	CTGGGTCTGC	ACAAGATGTT	1200
GAGAGGCTAT	TAAAGAAGCA	GAGGGAATCC	TACTTTGTTG	ATGCTCAGCC	TCAGCAGAAG	1260
GAGGAGGGGA	GTAAGGGAAG	AAAGGGTCCT	TTTCCTTCAA	TCTTAGGTGC	TCTCTACTGA	1320

(2) INFORMATION FOR SEQ ID NO:4:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 25 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:

CGTACCATGG TGAGAGCGCG GTTCC

25

(2) INFORMATION FOR SEQ ID NO:5:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 24 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:

CGGTACCGAA TTGAAGTGTG GTAG 24

(2) INFORMATION FOR SEQ ID NO:6:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 27 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:

TCGTCCATGG AGCGCGGTTC CCATTAC 27

(2) INFORMATION FOR SEQ ID NO:7:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 17 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:

TCTCGGTCGT CGTTGTT 17

(2) INFORMATION FOR SEQ ID NO:8:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 25 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:

ACGGTACCGA TGAGAGCGCG GTTCC 25

(2) INFORMATION FOR SEQ ID NO:9:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 27 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:

AACCCATGGT CAGTAAAAAG CCCTCAA 27

(2) INFORMATION FOR SEQ ID NO:10:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 17 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:

CGGGTATGGC GAGTGTT 17

(2) INFORMATION FOR SEQ ID NO:11:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1488 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:

ATGGCCAAGC TAGTTTTTTC CCTTTGTTTT CTGCTTTTCA GTGGCTGCTG CTCGCTTTTC 60

AGTTCCAGAG AGCAGCCTCA GCAAAACGAG TGCCAGATCC AAAA ACTCAA TGCCCTCAAA 120

CCGGATAACC GTATAGAGTC AGAAGGAGGG CTCATTGAGA CATGGAACCC TAACAACAAG 180

CCATTCCAGT GTGCCGGTGT TGCCCTCTCT CGCTGCACCC TCAACCGCAA CGCCCTTCGT 240

AGACCTTCCT ACACCAACGG TCCCCAGGAA ATCTACATCC AACAAGGTAA GGGTATTTTT 300

GGCATGATAT ACCCGGGTTG TCCTAGCACA TTTGAAGAGC CTCAACAACC TCAACAAAGA 360

GGACAAAGCA GCAGACCACA AGACCGTCAC CAGAAGATCT ATA ACTTCAG AGAGGGTGAT 420

TTGATCGCAG TGCCTACTGG TGTTCATGG TGGATGTACA ACAATGAAGA CACTCCTGTT 480

GTTGCCGTTT CTATTATTGA CACCAACAGC TTGGAGAACC AGCTCGACCA GATGCCTAGG 540

AGATTCTATC TTGCTGGGAA CCAAGAGCAA GAGTTTCTAA AATATCAGCA AGAGCAAGGA 600

GGTCATCAAA GCCAGAAAGG AAAGCATCAG CAAGAAGAAG AAAACGAAGG AGGCAGCATA 660

TTGAGTGGCT TCACCCCTGGA ATTCTTGGA CATGCATTCA GCGTGGACAA GCAGATAGCG 720

AAAAACCTAC AAGGAGAGAA CGAAGGGGAA GACAAGGGAG CCATTGTGAC AGTGAAAGGA 780

GGTCTGAGCG TGATAAAACC ACCCACGGAC GAGCAGCAAC AAAGACCCCA GGAAGAGGAA 840

GAAGAAGAAG	AGGATGAGAA	GCCACAGTGC	AAGGGTAAAG	ACAAACACTG	CCAACGCCCC	900
CGAGGAAGCC	AAAGCAAAAG	CAGAAGAAAT	GGCATTGACG	AGACCATATG	CACCATGAGA	960
CTTCGCCACA	ACATTGGCCA	GACTTCATCA	CCTGACATCT	ACAACCCTCA	AGCCGGTAGC	1020
GTCACAACCG	CCACCAGCCT	TGACTTCCCA	GCCCTCTCGT	GGCTCAGACT	CAGTGCTGAG	1080
TTTGGATCTC	TCCGCAAGAA	TGCAATGTTC	GTGCCACACT	ACAACCTGAA	CGCGAACAGC	1140
ATAATATACG	CATTGAATGG	ACGGGCATTG	ATACAAGTGG	TGAATTGCAA	CGGTGAGAGA	1200
GTGTTTGATG	GAGAGCTGCA	AGAGGGACGG	GTGCTGATCG	TGCCACAAAA	CTTTGTGGTG	1260
GCTGCAAGAT	CACAGAGTGA	CAACTTCGAG	TATGTGTCAT	TCAAGACCAA	TGATACACCC	1320
ATGATCGGCA	CTCTTGCAAG	GGCAAACCTCA	TTGTTGAACG	CATTACCAGA	GGAAGTGATT	1380
CAGCACACTT	TCAACCTAAA	AAGCCAGCAG	GCCAGGCAGA	TAAAGAACAA	CAACCCTTTC	1440
AAGTTCCTGG	TTCCACCTCA	GGAGTCTCAG	AAGAGAGCTG	TGGCTTAG		1488

(2) INFORMATION FOR SEQ ID NO:12:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 1458 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:

ATGGCCAAGC	TTGTTCTTTC	CCTTTGTTTC	CTTCTTTTCA	GTGGCTGCTT	CGCTCTGAGA	60
GAGCAGGCAC	AGCAAAATGA	GTGCCAGATC	CAAAAGCTGA	ATGCCCTCAA	ACCGGATAAC	120
CGTATAGAGT	CGGAAGGTGG	GTTCAATTGAG	ACATGGAACC	CTAACAACAA	GCCATTCCAG	180
TGTGCCGGTG	TTGCCCTCTC	TCGCTGCACC	CTTAACCGCA	ATGCCCTTCG	TAGACCTTCC	240
TACACCAACG	GTCCCCAGGA	AATCTACATA	CAACAAGGTA	ATGGTATTTT	TGGCATGATA	300
TTCCCGGGTT	GTCCTAGCAC	TTATCAAGAG	CCGCAAGAAT	CTCAGCAACG	AGGACGAAGC	360
CAGAGGCCCC	AAGACCGTCA	CCAAAAGGTA	CATCGCTTCA	GAGAGGGTGA	TTTGATCGCA	420
GTGCCTACTG	GTGTTGCATG	GTGGATGTAC	AACAATGAAG	ACACTCCTGT	TGTTGCCGTT	480
TCTATTATTG	ACACCAACAG	CTTGGAGAAC	CAGCTCGACC	AGATGCCCTAG	GAGATTCTAT	540
CTTGCTGGGA	ACCAAGAGCA	AGAGTTTCTA	AAATATCAGC	AGCAGCAGCA	AGGAGGTTCC	600
CAAAGCCAGA	AAGGAAAGCA	ACAAGAAGAA	GAAAACGAAG	GAAGCAACAT	ATTGAGTGGC	660
TTCGCCCTTG	AATTCTTGAA	AGAAGCGTTC	GGCGTGAACA	TGCAGATAGT	GAGAAACCTA	720

CAAGGTGAGA	ACGAAGAGGA	GGATAGTGGA	GCCATTGTGA	CAGTGAAAGG	AGGTCTAAGA	780
GTCACAGCTC	CAGCCATGAG	GAAGCCACAG	CAAGAAGAAG	ATGATGATGA	TGAGGAAGAG	840
CAGCCACAGT	GCGTGGAGAC	AGACAAAGGT	TGCCAACGCC	AAAGCAAAAG	GAGCAGAAAT	900
GGCATTGATG	AGACCATTTG	CACAATGAGA	CTTCGCCAAA	ACATTGGTCA	GAATTCATCA	960
CCTGACATCT	ACAACCCTCA	AGCTGGTAGC	ATCACAACCG	CCACCAGCCT	TGACTTCCCA	1020
GCCCTCTGGC	TTCTCAAAC	CAGTGCCCAG	TATGGATCAC	TCCGCAAGAA	TGCTATGTTC	1080
GTGCCACACT	ACACCCTGAA	CGCGAACAGC	ATAATATACG	CATTGAATGG	GCGGGCATTG	1140
GTACAAGTGG	TGAATTGCAA	TGGTGAGAGA	GTGTTTGATG	GAGAGCTGCA	AGAGGGAGGG	1200
GTGCTGATCG	TTCCACAAAA	CTTTGCGGTG	GCTGCAAAAT	CCCAGAGCGA	TAACTTTGAG	1260
TATGTGTCAT	TCAAGACCAA	TGATAGACCC	TCGATCGGAA	ACCTTGCAGG	GGCAAACCTCA	1320
TTGTTGAACG	CATTGCCAGA	GGAAGTGATT	CAGCACACTT	TTAACCTAAA	GAGCCAGCAG	1380
GCCAGGCAGG	TGAAGAACAA	CAACCCTTTC	AGCTTCCTTG	TTCCACCTCA	GGAGTCTCAG	1440
AGGAGAGCTG	TGGCTTAG					1458

(2) INFORMATION FOR SEQ ID NO:13:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 1446 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:

ATGGCTAAGC	TTGTTCTTTC	CCTTTGTTTT	CTGCTTTTCA	GTGGCTGCTG	CTTCGCTTTC	60
AGTTTCAGAG	AGCAGCCACA	GCAAAACGAG	TGCCAGATCC	AACGCCTCAA	TGCCCTAAAA	120
CCGGATAACC	GTATAGAGTC	AGAAGGTGGC	TTCATTGAGA	CATGGAACCC	TAACAACAAG	180
CCATTCCAGT	GTGCCGGTGT	TGCCCTCTCT	CGCTGCACCC	TCAACCGCAA	CGCCCTTCGC	240
AGACCTTCCT	ACACCAACGC	TCCCCAGGAG	ATCTACATCC	AACAAGGTAG	TGGTATTTTT	300
GGCATGATAT	TCCCGGGTTG	TCCTAGCACA	TTTGAAGAGC	CTCAACAAAA	AGGACAAAGC	360
AGCAGGCCCC	AAGACCGTCA	CCAGAAGATC	TATCACTTCA	GAGAGGGTGA	TTTGATTGCA	420
GTGCCAACCG	GTTTTGCATA	CTGGATGTAC	AACAATGAAG	ACACTCCTGT	TGTTGCCGTT	480
TCTCTTATTG	ACACCAACAG	CTTCCAGAAC	CAGCTCGACC	AGATGCCTAG	GAGATTCTAT	540
CTTGCTGGGA	ACCAAGAGCA	AGAGTTTCTA	CAGTATCAGC	CACAGAAGCA	GCAAGGAGGT	600

ACTCAAAGCC	AGAAAGGAAA	GCGTCAGCAA	GAAGAAGAAA	ACGAAGGAGG	CAGCATATTG	660
AGTGGCTTCG	CCCCGGAATT	CTTGGAACAT	GCGTTCGTCG	TGGACAGGCA	GATAGTGAGA	720
AAGCTACAAG	GTGAGAACGA	AGAGGAAGAG	AAGGGTGCCA	TTGTGACAGT	GAAAGGAGGT	780
CTCAGCGTGA	TAAGCCCACC	CACGGAAGAG	CAGCAACAAA	GACCCGAGGA	AGAGGAGAAG	840
CCAGATTGTG	ACGAGAAAGA	CAAACATTGC	CAAAGCCAAA	GCAGAAATGG	CATTGACGAG	900
ACCATTTGCA	CAATGAGACT	TCGCCACAAC	ATTGGCCAGA	CTTCATCACC	TGACATCTTC	960
AACCCTCAAG	CTGGTAGCAT	CACAACCGCT	ACCAGCCTCG	ACTTCCCAGC	CCTCTCGTGG	1020
CTCAAACCTCA	GTGCCCAGTT	TGGATCACTC	CGCAAGAATG	CTATGTTCGT	GCCACACTAC	1080
AACCTGAACG	CAAACAGCAT	AATATACGCA	TTGAATGGAC	GGGCATTGGT	ACAAGTGGTG	1140
AATTGCAATG	GTGAGAGAGT	GTTTGATGGA	GAGCTGCAAG	AGGGACAGGT	GTTAATTGTG	1200
CCACAAAACCT	TTGCGGTGGC	TGCAAGATCA	CAGAGCGACA	ACTTCGAGTA	TGTTTCATTC	1260
AAGACCAATG	ATAGACCCCTC	GATCGGCAAC	CTTGCAGGTG	CAAACTCATT	GTTGAACGCA	1320
TTGCCGGAGG	AAGTGATTCA	GCAAACTTTT	AACCTAAGGA	GGCAGCAGGC	CAGGCAGGTC	1380
AAGAACAACA	ACCCTTTTCAG	CTTCCTGGTT	CCACCTAAGG	AGTCTCAGAG	GAGAGTTGTG	1440
GCTTAG						1446

(2) INFORMATION FOR SEQ ID NO:14:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1689 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:14:

ATGGGGAAGC	CCTTCACTCT	CTCTCTTTCT	TCCCTTTGCT	TGCTACTCTT	GTCGAGTGCA	60
TGCTTTGCTA	TTAGCTCCAG	CAAGCTCAAC	GAGTGCCAAC	TCAACAACCT	CAACGCGTTG	120
GAACCCGACC	ACCGCGTTGA	GTTCGAAGGT	GGTTTGATTC	AAACATGGAA	CTCTCAACAC	180
CCTGAGCTGA	AATGCGCCGG	TGTCACTGTT	TCCAAACTCA	CCCTCAACCG	CAATGGCCTC	240
CACTTGCCAT	CTTACTCACC	TTATCCCCGG	ATGATCATCA	TCGCCCAAGG	GAAAGGAGCA	300
CTGCAGTGCA	AGCCAGGATG	TCCTGAGACG	TTTGAGGAGC	CACAAGAACA	ATCAAACAGA	360
AGAGGCTCAA	GGTCGCAGAA	GCAGCAGCTA	CAGGACAGTC	ACCAGAAGAT	TCGTCACTTC	420
AATGAAGGAG	ACGTACTCGT	GATTCCTCCT	GGTGTTCCCTT	ACTGGACCTA	TAACACTGGC	480

GATGAACCAG	TTGTTGCCAT	CAGTCTTCTT	GACACCTCTA	ACTTCAATAA	CCAGCTTGAT	540
CAAACCCCTA	GGGTATTTTA	CCTTGCTGGG	AACCCAGATA	TAGAGTACCC	AGAGACCATG	600
CAACAACAAC	AACAGCAGAA	AAGTCATGGT	GGACGCAAGC	AGGGGCAACA	CCAGCAGGAG	660
GAAGAGGAAG	AAGGTGGCAG	CGTGCTCAGT	GGCTTCAGCA	AACACTTCTT	GGCACAATCC	720
TTCAACACCA	ACGAGGACAT	AGCTGAGAAA	CTTCAGTCTC	CAGACGACGA	AAGGAAGCAG	780
ATCGTGACAG	TGGAAGGAGG	TCTCAGCGTT	ATCAGCCCCA	AGTGGCAAGA	ACAACAAGAT	840
GAAGATGAAG	ATGAAGACGA	AGATGATGAA	GATGAACAAA	TTCCCTCTCA	CCCTCCTCGC	900
CGACCAAGCC	ATGGAAAGCG	TGAACAAGAC	GAGGACGAGG	ACGAAGATGA	AGATAAACCT	960
CGTCCTAGTC	GACCAAGCCA	AGGAAAGCGT	GAACAAGACC	AGGACCAGGA	CGAGGACGAA	1020
GATGAAGATG	AAGATCAACC	TCGCAAGAGC	CGCGAATGGA	GATCGAAAAA	GACACAACCC	1080
AGAAGACCTA	GACAAGAAGA	ACCACGTGAA	AGAGGATGCG	AGACAAGAAA	CGGGGTTGAG	1140
GAAAATATCT	GCACCTTGAA	GCTTCACGAG	AACATTGCTC	GCCCTTCACG	CGCTGACTTC	1200
TACAACCCTA	AAGCTGGTCG	CATTAGTACC	CTCAACAGCC	TCACCCTCCC	AGCCCTCCGC	1260
CAATTCCAAC	TCAGTGCCCA	ATATGTTGTC	CTCTACAAGA	ATGGAATTTA	CTCTCCACAT	1320
TGGAATCTGA	ATGCAAACAG	TGTGATCTAT	GTGACTCGAG	GACAAGGAAA	GGTTAGAGTT	1380
GTGAACTGCC	AAGGGAATGC	AGTGTTTCGAC	GGTGAGCTTA	GGAGGGGACA	ATTGCTGGTG	1440
GTACCACAGA	ACTTCGTGGT	GGCGGAGCAA	GCCGGAGAAC	AAGGATTCGA	ATACATAGTA	1500
TTCAAGACAC	ACCACAACGC	AGTCACTAGC	TACTTGAAGG	ATGTGTTTAG	GGCAATTCCC	1560
TCAGAGGTTT	TTGCCCATTC	TTACAACCTT	CGACAGAGTC	AAGTGTCTGA	GCTTAAGTAT	1620
GAAGGAAATT	GGGGTCCTTT	GGTCAACCCT	GAGTCTCAAC	AAGGCTCACC	CCGTGTTAAA	1680
GTCGCATAA						1689

(2) INFORMATION FOR SEQ ID NO:15:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 1551 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:15:

ATGGGGAAGC	CCTTCTTCAC	TCTCTCTCTT	TCTTCCCTTT	GCTTGCTACT	CTTGTCGAGT	60
GCATGCTTTG	CTATTACCTC	CAGCAAGTTC	AACGAGTGCC	AACTCAACAA	CCTCAACGCG	120

TTGGAACCCG	ACCACCGCGT	TGAGTCCGAA	GGTGGTCTTA	TTGAAACATG	GAAGTCTCAA	180
CACCCCTGAGC	TGCAATGCGC	CGGTGTCACT	GTTTCCAAAC	GCACCCTCAA	CCGCAACGGC	240
TCCCACTTGC	CATCTTACTT	ACCTTATCCC	CAAATGATCA	TTGTCGTTCA	AGGGAAGGGA	300
GCAATTGGAT	TTGCATTTCC	GGGATGTCCC	GAGACGTTTG	AGAAGCCACA	ACAACAATCA	360
AGCAGAAGAG	GCTCAAGGTC	ACAGCAGCAA	CTACAAGACA	GTCACCAGAA	GATTCGTCAC	420
TTCAATGAAG	GAGACGTACT	AGTGATTCTT	CTTGGTGTTT	CTTACTGGAC	CTATAACACT	480
GGCGATGAAC	CAGTTGTTGC	CATCAGTCCT	CTTGACACCT	CCAAGTTCAA	CAATCAGCTT	540
GATCAAAACC	CCAGAGTATT	TTACCTTGCT	GGGAACCCAG	ATATAGAGCA	TCCCGAGACC	600
ATGCAACAAC	AGCAGCAGCA	GAAGAGTCAT	GGTGGACGCA	AGCAGGGGCA	ACACCGACAG	660
CAGGAGGAAG	AAGGTGGCAG	TGTGCTCAGT	GGCTTCAGCA	AACATTTCTT	AGCACAATCC	720
TTCAACACCA	ACGAGGACAC	AGCTGAGAAA	CTTCGGTCTC	CAGATGACGA	AAGGAAGCAG	780
ATCGTGACAG	TGGAGGGAGG	CCTCAGCGTT	ATCAGCCCCA	AGTGGCAAGA	ACAAGAAGAC	840
GAAGACGAAG	ACGAAGACGA	AGAATATGGA	CGGACGCCCT	CTTATCCTCC	ACGACGACCA	900
AGCCATGGAA	AGCATGAAGA	TGACGAGGAC	GAGGACGAAG	AAGAAGATCA	ACCTCGTCCT	960
GATCACCCCTC	CACAGCGACC	AAGCAGGCCC	GAACAACAAG	AACCACGTGG	AAGAGGATGT	1020
CAGACTAGAA	ATGGGGTTGA	GGAAAATATT	TGCACCATGA	AGCTTCACGA	GAACATTGCT	1080
CGCCCTTCAC	GTGCTGACTT	CTACAACCCA	AAAGCTGGTC	GCATTAGCAC	CCTCAACAGT	1140
CTCACCCCTCC	CAGCCCTCCG	CCAATTCGGA	CTCAGTGCCC	AATATGTTGT	CCTCTACAGG	1200
AATGGAATTT	ACTCTCCAGA	TTGGAAGTTG	AACGCGAACA	GTGTGACGAT	GACTCGAGGG	1260
AAAGGAAGAG	TTAGAGTGGT	GAAGTGCCAA	GGGAATGCAG	TGTTTCGACG	TGAGCTAAGG	1320
AGGGGACAAT	TGCTAGTGGT	GCCGCAGAAC	CCCGCGGTGG	CTGAGCAAGG	GGGAGAACAA	1380
GGATTGGAAT	ATGTAGTGTT	CAAGACACAC	CACAACGCCG	TGAGCAGCTA	CATTAAAGGAT	1440
GTGTTTAGGG	TAATCCCTTC	GGAGGTTCTT	TCCAATTCTT	ACAACCTTGG	CCAGAGTCAA	1500
GTGCGTCAGC	TCAAGTATCA	AGGAAACTCC	GGCCCTTTGG	TCAACCCATA	A	1551

(2) INFORMATION FOR SEQ ID NO:16:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 27 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:16:

GCGGCCGCAT GGCCAAGCTA GTTTTTT 27

(2) INFORMATION FOR SEQ ID NO:17:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 23 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:17:

GCGGCCGCTG GTGGCGTTTG TGA 23

(2) INFORMATION FOR SEQ ID NO:18:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 23 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:18:

GCGGCCGCTC TTCTGAGACT CCT 23

(2) INFORMATION FOR SEQ ID NO:19:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 24 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:19:

GCGGCCGCAT GCCCTTCACT CTCT 24

(2) INFORMATION FOR SEQ ID NO:20:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 26 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:20:

GCGGCCGCTG GGAGGGTGAG GCTGTT

26

(2) INFORMATION FOR SEQ ID NO:21:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 24 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:21:

GCGGCCGCTG AGCCTTGTTG AGAC

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